

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-8, drawn to a vapor grown carbon fiber, each fiber of the carbon fiber having a branching degree of at least 0.15 occurrences/um and/or a vapor grown carbon fiber having a bulk density of 0.025 g/cm³ or less.

Group II, claim(s) 9-19, drawn to a method for producing a vapor grown carbon fiber.

Group III, claim(s) 20-21, drawn to a composition material comprising a vapor grown carbon fiber.

Group IV, claim(s) 22-23, drawn to a resin composition comprising a vapor grown carbon fiber.

2. The inventions listed as Groups I-V do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: a vapor grown carbon fiber is not a novel special technical feature.

Unity exists only when there is a technical relationship among the claimed inventions involving one or more of the same or corresponding claimed technical features. The express “special technical features” is defined as meaning those technical features that define a contribution which each of the inventions, considered as

a whole, makes over the prior art.” (Rule 13.2). The question of unity of invention has been reconsidered retroactively by the examiner in view of the search performed; a review of US 5,413,773 makes it clear that the claimed species is not novel over the prior art (the instantly claimed compounds). Furthermore, these references appear to demonstrate that the technical feature (i.e. a vapor grown carbon fiber) does not define a contribution which each of the inventions, considered as a whole, makes over the prior art. US 5,413,773 is drawn to a method that produces a vapor grown carbon fiber with a diameter of 20-100 nm and a bulk density of 0.001-0.02 g/cm³ (col. 3, lines 26-35). Thus, lack of unity becomes apparent “a posteriori” after taking the prior art into consideration. Accordingly, the prior art of the record supports restriction of the claimed subject matter in to the groups as mentioned immediately above.

Joint Inventors

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(l).

Conclusion

4. All Claims are subject to a Restriction Requirement.
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Serena L. Hanor whose telephone number is (571) 270-

3593. The examiner can normally be reached on Monday - Thursday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571) 272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SLH

/Vickie Kim/
Supervisory Patent Examiner, Art Unit 4116